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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/993,099 | 11/06/2001 | Paul Wollcott Harrison | RM301f | 8174 |

23996 7590 05/21/2003

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EXAMINER

EVANS, GEOFFREY S

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1725

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DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/993,099

Applicant(s)

HARRISON, PAUL WOLLCOTT

Examiner

Geoffrey S Evans

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 1-3, 10 and 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-9, 11-17 and 19-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4,8,9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Izoard et al. in EP 419,377 in view of Suzuki et al. in Japan Patent No. 9-71,726. Izoard et al. discloses applying a layer of mixed organic pigment material and using oxides of titanium and chromium oxide as an energy absorbing enhancer, and that the layer has a thickness of 15 microns. Izoard et al. does not disclose using a mixture of two different kinds of organic pigments. Suzuki et al. teaches using a pigment that can include two different organic pigments. It would have been obvious to adapt Izoard et al. in view of Suzuki et al. to provide this to achieve excellent contrast.

3. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Izoard et al. in view of Suzuki et al. as applied to claim 4 above, and further in view of Ishiwaki et al. in Japan Patent No. 60-199,660. Ishiwaki et al. teaches using a laminar air flow over the workpiece. It would have been obvious to adapt Izoard et al. in view of Suzuki et al. and Ishiwaki et al. to provide this to prevent fouling of the optics during laser marking.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Izoard et al. in view of Suzuki et al. as applied to claim 4 above, and further in view of Sadamoto et al. in Japan Patent No. 8-174,263, Murakami et al. in Japan Patent No. 63-216,790 and Spanjer in U.S. Patent No. 4,654,290. Sadamoto et al. teaches using carbon black

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as an energy absorbing enhancer in a pigment. Murakami et al. teaches that a laser beam with a wavelength of 1064 nm is easily absorbed by carbon black. Spanjer in U.S. Patent No. 4,654,290 teaches in column 5, lines 7-10 using carbon black to improve color contrast. It would have been obvious to adapt Izoard et al. in view of Suzuki et al., Sadamoto et al., Murakami et al. and Spanjer to provide this to stabilize and increase the absorption of the pigment.

5. Claims 11,20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Izoard et al. in view of Suzuki et al. and Seuss et al. in U.S. Patent No. 5,985,078. Izoard meets all of the limitations of claims 11-20 except a mixture of organic pigments and a carrier. Suzuki et al. teaches using a pigment that can include two different organic pigments. Seuss et al. teaches using a carrier that is placed in contact with the workpiece prior to laser treatment to create a marking on the workpiece. It would have been obvious to adapt Izoard et al. in view of Suzuki et al. and Seuss et al. to provide this so that only part of the workpiece receives the pigment layer.

6. Claims 12,16,17,22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Izoard et al. in view of Suzuki et al. and Zambounis et al. in U.S. Patent No. 5,840,449. Izoard et al. discloses applying a layer of mixed organic pigment material and using oxides of titanium and chromium oxide as an energy absorbing enhancer, and that the layer has a thickness of 15 microns. Izoard et al. does not disclose using a mixture of two different kinds of organic pigments. Suzuki et al. teaches using a pigment that can include two different organic pigments. Zambounis et al. teaches (see column 17, lines 37-39) applying a coating by a stencil to only part of the workpiece. It

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would have been obvious to adapt Izoard et al. in view of Suzuki et al. and Zambounis et al. to provide this to apply a layer of mixed organic pigment material using a stencil so that only the pigment material actually needed is applied.

7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Izoard et al. in view of Suzuki et al. and Zambounis et al. as applied to claim 12 above, and further in view of Ishiwaki et al. in Japan Patent No. 60-199,690. Ishiwaki et al. teaches using a laminar airflow over the workpiece. It would have been obvious to adapt Izoard et al. in view of Suzuki et al., Zambounis et al. and Ishiwaki et al. to provide this to prevent fouling of the optics during laser marking.

8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Izoard et al. in view of Suzuki et al. and Zambounis et al. as applied to claim 12 above, and further in view of Sadamoto et al. in Japan Patent No. 8-174,263, Murakami et al. in Japan Patent No. 63-216,790 and Spanjer in U.S. Patent No. 4,654,290. Sadamoto et al. teaches using carbon black as an energy absorbing enhancer in a pigment.

Murakami et al. teaches that a laser beam with a wavelength of 1064 nm is easily absorbed by carbon black. Spanjer in U.S. Patent No. 4,654,290 teaches in column 5, lines 7-10 using carbon black to improve color contrast. It would have been obvious to adapt Izoard et al. in view of Suzuki et al., Zambounis et al., Sadamoto et al., Murakami et al. and Spanjer to provide this to stabilize and increase the absorption of the pigment.

9. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Izoard et al. in view of Suzuki et al. and Zambounis et al. as applied to claim 12 above, and further in view of Sadamoto et al. in Japan Patent No. 8-174,263. Sadamoto et al.

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teaches using a laser with a power level no more than 50 watts and a scanning speed of 1mm/second to 400 mm/second (see paragraph 37). It would have been obvious to adapt Izoard et al. in view of Suzuki et al., Zambounis et al and Sadamoto et al. to provide this to optimize the laser marking process.

10. Claims 19,23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Izoard et al. in view of Suzuki et al. and Sadamoto et al. in Japan Patent No. 8-174,263. Izoard et al. discloses applying a layer of mixed organic pigment material and using oxides of titanium and chromium oxide as an energy absorbing enhancer, and that the layer has a thickness of 15 microns. Izoard et al. does not disclose using a mixture of two different kinds of organic pigments, nor does Izoard et al. appear to specifically disclose that the radiant energy beam (laser beam) interacting with the marking material forming a bonded layer with the substrate. Suzuki et al. teaches using a pigment that can include two different organic pigments. Sadamoto et al. teaches that the part of the marking layer that has been treated remains even after wiping a cloth over the substrate surface (see paragraph 32). It would have been obvious to adapt Izoard et al. in view of Suzuki et al. and Sadamoto et al. to provide this to create a firm mark that has been bonded to the substrate.

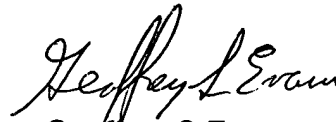
11. Applicant's arguments with respect to claims of record have been considered but are moot in view of the new ground(s) of rejection. Please note that newly cited Suzuki et al. reference (JP 9-71,726) is considered to show using a plurality of organic pigments.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey S Evans whose telephone number is (703)-308-1653. The examiner can normally be reached on Mon-Fri 6:30AM to 4:00 PM, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (703)-308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9310 for regular communications and (703)-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0661.


Geoffrey S Evans
Primary Examiner
Art Unit 1725

GSE
May 19, 2003